

BOOM LOAD ALLEVIATION USING VISUAL MEANS

ABSTRACT OF THE DISCLOSURE

An aircraft refueling boom load alleviation system uses received light to detect boom displacement and generates a control signal to correct the displacement. Both a set of flight surfaces and a plurality of light imageable targeting sights are disposed on a refueling tube. At least one digital camera converts the light imageable shape of each of the targeting sights to individual pixel images. The pixel images converted by the digital camera are input to a computer system. The computer system recognizes either a displacement of pixel images or a quantity change of pixels between pixel images as a displacement of the refueling tube. The computer system calculates the displacement of any of the pixel images. A signal is generated to control the refueling tube flight surfaces to correct the displacement.